

Wildlife Management and Recreation

Wildlife Management and Recreation emphasizes the awareness of conservation and preservation management practices utilized to ensure the sustainability of our outdoor resources. Integrated academics and experiential learning will build conservation awareness among students. This will, in turn, generate career interests and more responsible land ownership in the community as we enter the 21st century.

Pre-requisites: None

Recommended Credits: $\frac{1}{2}$ or 1

Recommended Grade Levels: 10th, 11th, and 12th

* $\frac{1}{2}$ denotes learning expectations that must be met when teaching the course for $\frac{1}{2}$ credit.

** All learning expectations must be met when teaching the course for 1 credit.

Wildlife Management and Recreation

Standard 1.0

The student will summarize the role of wildlife and wildlife agencies through an introduction to wildlife management and recreation principles.

Standard 2.0

The student will summarize game management principles and practices to conserve and protect wildlife.

Standard 3.0

The student will analyze the importance of public education and information in wildlife management and recreation.

Standard 4.0

The student will evaluate ways various hunting techniques can lead to a safe and successful hunt.

Standard 5.0

The student will evaluate practices a farmer can use to improve wildlife habitat and profit.

Standard 6.0

The student will analyze the effects game laws and their enforcement have on sustainable wildlife and recreation activities.

Standard 7.0

The student will assess fishery management principles designed to promote and sustain an abundant and healthy supply of fish.

Standard 8.0

The student will analyze the important recreational, therapeutic, ecological, and environmental values of Tennessee Parks to the public.

Standard 9.0

The student will demonstrate the integration of academic competencies in wildlife management and recreation.

Standard 10.0

The student will develop premier leadership and personal growth needed for careers in wildlife management.

Course Description:

Wildlife Management and Recreation utilizes standards necessary for the student to develop competencies needed in wildlife management and recreation careers. Integrated academics and experiential learning will build conservation awareness among students. This will, in turn, generate career interests and more responsible land ownership in a community as we enter the 21st century.

Standard 1.0

The student will summarize the role of wildlife and wildlife agencies through an introduction to wildlife management and recreation principles.

Learning Expectations:

The student will:

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|-----|---|-----|
| 1.1 | Evaluate the importance of wildlife management and landowner responsibilities. | 1/2 |
| 1.2 | Demonstrate an understanding of safe and responsible attitudes in the field. | 1/2 |
| 1.3 | Demonstrate that safety is the first priority when in the field or on the water. | 1/2 |
| 1.4 | Specify the steps that must be taken to improve wildlife or wildlife habitat. | |
| 1.5 | Evaluate the role and responsibilities of the, TWRA, Tennessee Wildlife Resources Agency. | 1/2 |
| 1.6 | Specify actions the agriculturist can take to profit from wildlife management. | |
| 1.7 | Evaluate the types of conflicts that arise between land and water users. | |

Evidence Standard is Met:

The student will:

- Research the history of wildlife management in North America and list the importance and responsibilities to modern wildlife management.
- Discuss and list safe and responsible attitudes people should have in the field.
- Specify the steps in the wildlife management process.
- Research the history of the TWRA and determine why it was established and what its responsibilities are.
- Discuss and list actions the farmer can take to profit from wildlife management.
- Discuss ways of resolving conflicts between hunters, landowners, boaters and fishermen.

Integration/Linkages

Social Studies, Biology, Ecology, Language Arts, SCANS (Secretary's Commission on Achieving Necessary Skills), OSHA Standards, TOSHA Standards, Geography

Sample Performance Tasks

- Summarize the history of wildlife management in North America.
- Demonstrate safety techniques in the field.
- Interview a TWRA employee about responsibilities of people to the environment and report your findings.
- Design a wildlife management plan outline for a local farm.

Standard 2.0

The student will summarize game management principles and practices to conserve and protect wildlife.

Learning Expectations:

The student will:

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|-----|---|-----|
| 2.1 | Summarize the importance of game management. | 1/2 |
| 2.2 | Differentiate major game and nongame wildlife. | |
| 2.3 | Evaluate methods of big and small game management. | |
| 2.4 | Assess ways the TWRA contributes to game management. | |
| 2.5 | Evaluate the importance and methods of habitat restoration. | |
| 2.6 | Evaluate the role of predators in game management. | |
| 2.7 | Analyze methods of timber management as they relate to game management. | |

Evidence Standard is Met:

The student will:

- Recommend native non-game animals and methods for their management.
- Recommend methods of managing big and small game animals.
- Summarize ways TWRA contributes to game management.
- Recommend methods of habitat restoration.
- Summarize the role of predators in game management through simulation.
- Research timber and wildlife management compatibility issues.
- Design timber management strategies as related to game management.

Integration/Linkages

Mathematics, Language Arts, Social Studies, SCANS (Secretary's Commission on Achieving Necessary Skills), Ecology, Biology, Geography

Sample Performance Tasks

- Identify, record, and photograph native game and nongame wildlife.
- Use management methods for identified wildlife in a wildlife management plan for a farm or a school lab.
- Tour a wildlife management area.
- Use Internet resources to determine if habitat restoration is needed on a local farm and draw conclusions.
- Interview a TWRA Wildlife Manager or a biologist on various management methods and report findings.
- Read and report on a book about game or nongame management.
- Implement management methods taught in the classroom in a school lab.
- Simulate predator /prey relationships in the school lab.
- Interview a Tennessee State Forester about timber and wildlife management compatibility and report findings.
- Use a timber management method to improve local habitat.

Standard 3.0

The student will analyze the importance of public education and information in wildlife management and recreation.

Learning Expectations:

The student will:

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| 3.1 | Evaluate what the Tennessee Hunter Safety educational requirements are. | 1/2 |
| 3.2 | Specify basic boating safety procedures. | 1/2 |
| 3.3 | Specify reasons for bow-hunting education. | 1/2 |
| 3.4 | Evaluate methods of informing the public and keeping people abreast of current events and meetings related to wildlife conservation. | 1/2 |
| 3.5 | Evaluate how policy is formed through the TWRC, Tennessee Wildlife Resource Commission, and how the state Sunshine Laws affect them. | |

Evidence Standard is Met:

The student will:

- Complete and pass the Tennessee Hunter Safety course.
- Demonstrate boating safety procedures in the classroom or on the water.
- Determine and list reasons for bowhunter education.
- Visit and list various web sites on the Internet relating to wildlife management and recreation.
- Specify different types of communication to keep the public informed.
- Collect and report on information on the TWRC.

Integration/Linkages

Language arts, Social Studies, SCANS (Secretary's Commission on Achieving Necessary Skills), Hunter Safety Education

Sample Performance Tasks

- Participate in a local Tennessee Hunter Safety Education Course.
- Use boating safety techniques on the water.
- Participate in a bowhunter education course.
- Write a public or private non-profit wildlife conservation agency or group for information on their mission.
- Join a wildlife or outdoor recreation organization and become active.

- Interview a TWRA Information Officer about his/her job and report findings.
- Write, phone, E-mail, or interview a TWRC commissioner about his/her environmental responsibilities.

Standard 4.0

The student will evaluate ways various hunting techniques can lead to a safe and successful hunt.

Learning Expectations:

The student will:

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|-----|---|-----|
| 4.1 | Describe small game hunting and trapping techniques. | 1/2 |
| 4.2 | Describe big game hunting techniques. | 1/2 |
| 4.3 | Describe waterfowl hunting techniques and the importance of steel shot. | 1/2 |

Evidence Standard is Met:

The student will:

- Simulate small game hunting and trapping in the school lab.
- Simulate big game hunting in the school lab.
- Simulate waterfowl hunting techniques in the school lab.

Integration/ Linkages

Social Studies, Biology, Ecology, SCANS (Secretary's Commission on Achieving Necessary Skills), Language Arts, Agricultural Mechanics

Sample Performance Tasks

- Build a trap for small game.
- Participate in a computerized simulation small game hunt.
- Participate in a computerized simulation big game hunt.
- Participate in a computerized simulation waterfowl hunt.
- Build a blind to be used for hunting game.

Standard 5.0

The student will evaluate practices a farmer can use to improve wildlife habitat and profit.

Learning Expectations:

The student will:

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|-----|---|
| 5.1 | Assess enterprises related to wildlife that may be beneficial to a farmer or a landowner. |
| 5.2 | Summarize types of fee hunting arrangements. |
| 5.3 | Analyze the legalities of a fee hunting enterprise. |
| 5.4 | Evaluate the wildlife habitat improvement incentives a landowner may receive from local, state, and federal agencies or groups. |

Evidence Standard is Met:

The student will:

- Debate and budget enterprises related to wildlife that may be beneficial to a farmer or a landowner.
- Research types of fee hunting arrangements.
- Outline the legal ramifications of a fee hunting enterprise.
- Specify several agencies and groups related to wildlife and report on incentives available to farmers/landowners.

Integration/Linkages

Mathematics, Language Arts, Social Studies, SCANS (Secretary's Commission on Achieving Necessary Skills), Biology, Ecology

Sample Performance Tasks

- Budget an enterprise within a wildlife management plan and/or SAEP, supervised agricultural experience program.
- Draw up a fee hunting arrangement between classmates.
- Interview a lawyer or a TWRA Official about fee hunting enterprise legalities and report to class.
- Use wildlife habitat improvement incentives available in a wildlife management plan and/or an SAEP.

Standard 6.0

The student will analyze the effects game laws and their enforcement have on sustainable wildlife and recreation activities.

Learning Expectations:

The student will:

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|-----|--|-----|
| 6.1 | Evaluate reasons for laws pertaining to wildlife. | 1/2 |
| 6.2 | Summarize legal and the illegal methods of hunting. | 1/2 |
| 6.3 | Evaluate the punishment for breaking game laws. | 1/2 |
| 6.4 | Specify the rights of the landowner in wildlife related scenarios. | 1/2 |
| 6.5 | Evaluate the responsibility of the legal section of the TWRA. | |
| 6.6 | Evaluate the specific laws of wildlife management areas, WMA's. | |

Evidence Standard is Met:

The student will:

- Research reasons for Tennessee wildlife laws.
- Differentiate between legal and illegal hunting methods.
- Summarize the punishments and fines for breaking game laws in Tennessee.
- Analyze landowner rights.
- Report on the legal responsibility of TWRA toward managing wildlife.
- Summarize laws specific to different wildlife management areas.

Integration/Linkages

Language Arts, Social Studies, SCANS (Secretary's Commission on Achieving Necessary Skills), Government

Sample Performance Tasks

- Obtain a current copy of the "Tennessee Hunting and Trapping Guide" and report on laws and subsequent punishments for breaking those laws, pertaining to a specific game species.
- Develop presentations pertaining to landowner rights.
- Prepare a career profile for a TWRA Wildlife Officer.
- Propose a WMA in Tennessee and create a profile of regulations pertaining to it.
- Create a pie chart showing law enforcement funding.

Standard 7.0

The student will assess fishery management principles designed to promote and sustain an abundant and healthy supply of fish.

Learning Expectations:

The student will:

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| 7.1 | Specify the types of game and nongame fish in Tennessee waterways. | 1/2 |
| 7.2 | Evaluate the general creel and size limits for game fish species. | 1/2 |
| 7.3 | Evaluate the principles of aquatic habitat management. | |
| 7.4 | Determine the harmful effects of habitat degradation on fish. | |
| 7.5 | Specify the legal and illegal methods of harvesting fish. | 1/2 |
| 7.6 | Evaluate the methods and laws of private lake stocking and TWRA lake stocking. | |

Evidence Standard is Met:

The students will:

- Recommend game and nongame species fish for Tennessee.
- Summarize general and waterway specific creel and size limits for game fish species.
- Demonstrate, through simulation, knowledge of aquatic habitat management principles.
- Describe pollution and pollutants of Tennessee waterways and their impact on aquatic wildlife.
- Outline basic fishing laws.
- Simulate the methods of harvesting fish and which are legal and illegal.
- Summarize the methods and laws of private lake stocking.

- Summarize laws specific to identified TWRA lakes.

Integration/Linkages

Biology, Ecology, Language Arts, Social Studies, Geography, SCANS (Secretary's Commission on Achieving Necessary Skills)

Sample Performance Tasks

- Write and present a report on a fish species.
- Prepare a current Tennessee Fishing Guide for elementary students.
- Assess a TWRA management plan.
- Participate in a computerized fishing simulation.
- Create a private lake management plan.

Standard 8.0

The student will analyze the important recreational, therapeutic, ecological, and environmental values of Tennessee Parks to the public.

Learning Expectations:

The student will:

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| 8.1 | Determine the purpose of national, state, and local parks. | 1/2 |
| 8.2 | Organize the number of state and national parks in Tennessee. | |
| 8.3 | Analyze funding for national, state, and local parks. | |
| 8.4 | Evaluate various recreational activities and facilities available at national, state, and local parks. | |
| 8.5 | Evaluate career opportunities in park management. | 1/2 |

Evidence Standard is Met:

The student will:

- Summarize the history of state and national parks in Tennessee.
- Specify state and national parks in Tennessee.
- Specify funding sources for national, state, and local parks.
- Recommend various recreational activities and facilities for national, state, and local parks.
- Outline career opportunities in parks and recreation.

Integration/Linkages

Language Arts, Social Studies, Geography, SCANS (Secretary's Commission on Achieving Necessary Skills), Geography, Tennessee History, American History

Sample Performance Tasks

- Interview a park ranger and report findings on job responsibilities and opportunities.
- Design a map of parks in Tennessee.
- Create a pie charts showing funding for national, state, and local parks.
- Prepare a career profile for a job in parks and recreation.
- Create a park management plan.

Standard 9.0

The student will demonstrate the integration of academic competencies in wildlife management and recreation.

Language Arts:

The student will:

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| 9.1 | Conduct an interview with a person in the wildlife industry. | |
| 9.2 | Write a research paper based on accepted standards used in wildlife management. | |
| 9.3 | Speak before a group on the importance of wildlife conservation and use. | |
| 9.4 | Read journals, articles, and books on management practices for wildlife conservation. | 1/2 |

Mathematics

The student will:

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| 9.5 | Develop and create budgets to be used in a wildlife management area. |
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| 9.6 | Use basic mathematical formulas to determine area and acreage of parks and forests. | 1/2 |
| 9.7 | Construct tables, charts, and graphs to identify properties and relationships of funding for wildlife programs. | |
| 9.8 | Read various measurement devices used in the wildlife industry. | 1/2 |

Science:

The student will:

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|------|---|-----|
| 9.9 | Use the scientific process to solve problems related to wildlife management. | |
| 9.10 | Use ecology, biology, chemistry, and physics to develop wildlife plans for improved habitat quality. | 1/2 |
| 9.11 | Analyze data on wildlife habitats and draw conclusions for needed improvements. | |
| 9.12 | Correlate relationships between people and the environment, using hypothetical research and theoretical data. | |

Evidence Standard is Met:

The student will:

- Complete a wildlife management plan.
- Design and hold an educational workshop for wildlife management and recreation.
- Use scientific research to solve an identified problem in wildlife management and write a research paper based on findings.
- Complete a fisheries management plan.
- Complete a park management plan.
- Prepare for an FFA career development event to test knowledge and skill acquired in wildlife management.
- Keep records for an SAEP.

Integration/Linkages

Language Arts, Mathematics, Biology, Ecology, SCANS (Secretary's Commission on Achieving Necessary Skills)

Sample Performance Tasks

- Create a fisheries management plan for a mock lake.
- Create a park management plan for a local park.
- Prepare a wildlife management plan for a landowner.
- Complete an FFA proficiency award related to wildlife and fisheries.

Standard 10.0

The student will develop premier leadership and personal growth needed for careers in wildlife management.

Learning Expectations:

The student will:

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|------|--|-----|
| 10.1 | Analyze the importance of FFA leadership and career development events to wildlife conservation and use. | 1/2 |
| 10.2 | Develop a program of activities for the FFA chapter that involves wildlife and conservation activities. | 1/2 |
| 10.3 | Demonstrate public speaking skills in a debate on the need for conservation controls. | |
| 10.4 | Specify rewards and recognition available for FFA members in natural resources management. | 1/2 |
| 10.5 | Design educational exhibits related to wildlife management. | |
| 10.6 | Demonstrate the way to conduct a meeting properly. | 1/2 |

Evidence Standard is Met:

The student will:

- Summarize the rewards and recognition available for FFA members.
- Develop an educational exhibit on wildlife management, recreation or hunting.
- Conduct a meeting, using Robert's Rules of Order.

Integration/Linkages

Language Arts, Social Studies, SCANS (Secretary's Commission on Achieving Necessary Skills), National FFA Guidelines for Parliamentary Procedure, National FFA Guidelines for Proficiency Awards and Degrees, National FFA PALS Program

Sample Performance Tasks

- Apply for an FFA chapter office.

- Conduct a business meeting, using six parliamentary procedure abilities.
- Work with FFA members to develop an educational exhibit for a fair or an elementary school about wildlife education.
- Complete an FFA application for advanced degrees using a wildlife SAEP, supervised agricultural experience program.
- Complete an application for an FFA proficiency award in the natural resource area.
- Participate in the FFA PALS Program.